MEMO

Date: February 15, 2007

To: Valerie Knepper, MTC

From: Bill Hurrell/Terri O'Connor

Subject: Parking Demand Model Results and Recommendations

Introduction

This memorandum presents the parking demand model results and associated recommendations for Metropolitan Transportation Commission's (MTC) *Reforming Parking Policies to Support Smart Growth Study*. This memorandum includes brief description of the parking demand model, comparison tables of parking short and long term parking demand rates for the following case study cities: Vallejo, Menlo Park, Hercules, Morgan Hill, and Union City as well as final policy recommendations.

Parking Demand Model

WSA developed a parking demand model which was tailored to each of the case study sites, with the purpose of generating parking demand for each of the sites. The cities provided existing and future land use data as model input. The model was calibrated for each city's existing parking demand and parking requirements as well as modal information, the extent of a shared-use parking environment, and the parking supply in the area. The future parking demand of the study sites was determined based on land use projections and pipeline projects (i.e. short-term and/or long-term goals).

Parking Demand Rates

Parking demand rates were calculated for each of the case study areas based upon ULI and ITE parking generation rates for major land use categories (office and retail) assuming shared parking and the existing parking code requirements for the multi-family housing category. The model was calibrated with existing parking demand data[1] and adjusted by mode split factor, shared parking environment and parking supply for each study area. The following table summarizes the parking demand rates generated for the major land use categories for each of the case study areas.

[1] The parking demand for Hercules was estimated based on utilization data from the most similar case study area (Morgan Hill) since data was not available for the study area. The remainder of the model inputs for Hercules were existing and future land use data from Hercules.

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Case Study Area	Major Land Uses	Demand Rate			Existing Requirements
		Short-Term	Long -Term	Total	
Union City					
	Office/R&D	0.6	1.4	2.0	3.3
	Retail	1.0	0.1	1.1	5.7
1	Multifamily	0.2	1.4	1.5	1.5
	Community Space	0.6	0.6	1.1	discretionary
	Bank	1.4	0.2	1.6	8.3
	Fast Food	3.1	0.3	3.4	10.0
Vallejo (Downtown)					
	Office (General)	0.6	1.5	2.2	3.5
	Office (Government)	0.3	1.4	1.7	3.5
	Retail	1.1	0.1	1.2	1.7
	Multifamily	0.2	1.4	1.5	1.7
5	Senior Housing	0.1	0.9	1.0	0.5
	Restaurant/Bar	1.2	0.1	1.4	20.0
	Service	0.6	0.1	0.6	3.3
Vallejo (Waterfront)					
	Office	0.6	1.5	2.2	3.5
	Retail	1.1	0.1	1.2	1.7
	Multifamily	0.2	1.4	1.5	1.7
	Convention	0.6	0.6	1.2	discretionary
	Hotel	0.0	0.2	0.2	1.0
Morgan Hill					
	Office	0.7	1.6	2.3	4.0
	Retail	1.2	0.1	1.3	3.5
1	Multifamily	0.2	1.8	2.0	2.3
4	Public Buildings	0.6	0.6	1.3	29.0
	Restaurant/Bar	2.3	0.3	2.6	10.0
Menlo Park					
2	Office	0.7	1.7	2.4	5.0
	Office Government	0.4	1.5	1.9	5.0
	Retail	1.2	0.1	1.4	6.0
	Multifamily	0.2	1.4	1.5	2.0
	Restaurant/Bar	1.4	0.2	1.5	6.0
	Banks	1.7	0.2	1.9	6.0
Hercules					
3	Office	0.7	1.6	2.2	3.0
	Retail	1.1	0.1	1.3	3.5
	Multifamily	0.2	1.5	1.7	2.0
	Studio/1-Br	0.2	1.4	1.5	2.0

Sources: Wilbur Smith Associates, February 2007. City Municipal Codes, Union City, Vallejo, Menlo Park, Morgan Hill, Hercules.
Notes: 1. Does not include Huntington Square
2. Based on 200 new apartments
3. Sycamore North considered current
4. Auditorium/assembly hall
5. 1 space per 2 residents (group home)

Office and Retail Rates
The parking model developed rates for office and retail significantly lower than existing requirements in all case study locations. This indicates that existing parking codes for retail, office and professional services in the study areas merit revision.

Multifamily Housing Rates
The parking model did not incorporate residential parking supply; however it did incorporate the parking demand for spillover parking into nearby residential neighborhoods, which is an indication for guest parking demand. WSA adjusted this demand for overall residential demand and found it to be very close to existing residential parking requirements in some of the case study areas. However, there is room for adjustment in the codes that provide blanket minimum requirements for all unit sizes namely Menlo Park and Hercules.

Forecasted Parking Demand

Pipeline projects consist of both short and long-term planning horizon projects that have already received approval from planning. Most cities supplied information for projects that have been approved for the short term time horizon. Parking was forecasted only in the case study areas and land uses types where pipeline projects were made available.

Office Demand
The parking model forecasted parking demand increases for office projects based on pipeline projects for Union City and Vallejo (Waterfront).

Retail Demand
The parking model forecasted parking demand increases for retail projects based on pipeline projects for Hercules and Vallejo (Waterfront).

Multifamily Housing Demand
The parking model forecasted parking demand increases for multifamily housing projects based on pipeline projects for Union City, Morgan Hill, Hercules and Vallejo (downtown).

The following table is a summary of current and forecasted parking demand based on parking occupancy data in the downtown and projected pipeline projects.

		Current Parking			Forecasted (New) Parking		
Case Study	**Major Land Uses**	**Short Term**	**Long Term**	**Total**	**Short Term**	**Long Term**	**Total**
Union City							
1	Office/R&D	40	100	140	780	1830	2610
	Retail	300	30	340	120	10	130
	Multifamily	130	1160	1290	430	3860	4290
	Community	n/a		0	20	20	40
	Bank	0	420	420			0
	Fast Food	20	0	20			0
Vallejo (DT)							
	Office –General	140	330	480	---	---	0
	Office-Gov	50	190	240	---	---	0
	Retail	160	20	180	70	10	80
	Multifamily	70	630	700	130	1130	1260
	Senior Housing	20	190	210	10	0	10
	Restaurant/Bar	70	10	80			0
	Service	40	0	40			0
Vallejo(WF)							
	Office	30	120	140	280	640	920
	Retail	30	0	40	150	20	170
	Multifamily	---	---	---	170	1510	1670
	Convention	---	---	---	20	20	50
	Hotel	---	---	---	0	40	40
Morgan Hill							
	Office	80	180	250	---	---	0
	Retail	120	10	130	70	10	70
	Multifamily	20	190	220	40	340	380
	Public Buildings	20	20	40	---	---	0
	Restaurant/Bar	20	0	30	---	---	0
Menlo Park							
	Office	440	890	1330	---	---	0
	Office - Gov	10	30	40	---	---	0
	Retail	230	30	260	---	---	0
2	Multifamily	90	800	890	30	270	300
	Restaurant/Bar	80	10	90	---	---	0
	Banks	80	10	90	---	---	0
Hercules							
3	Office	---	---	0	30	60	90
	Retail	30	0	40	210	20	230
	Multifamily	10	130	150	340	3070	3410
	Studio/1-Br	0	20	20	0	20	20

Sources: Wilbur Smith Associates, February 2007.

Notes:
1. Does not include Huntington Square
2. Based on 200 new apartments
3. Sycamore North considered current)

The parking demand model forecasted overall parking demand increases for each case study side, the magnitude of which was directly related to the number of pipeline developments and the calculated parking demand rate. The following table is a summary of overall forecasted demand for the case study areas.

Case Study	Current Demand			Future Demand			Increase %
	ST	LT	Total	ST	LT	Total	
Union City	500	1290	1790	1850	7010	8860	395.0%
Vallejo (DT)	630	1430	2060	840	2580	3420	66.0%
Vallejo (WF)	60	120	180	680	2350	3030	1583.3%
Menlo Park	1200	2630	3830	1230	2900	4130	7.8%
Morgan Hill	320	550	870	420	900	1320	51.7%
Hercules	50	160	210	630	3340	3970	1790.5%

Recommendations

Supply Management Strategies

Adjust Existing Parking Requirements: The current minimum parking requirements for office and retail in the case study areas reflect suburban ITE parking standards, which do no apply in dense commercial downtowns. As such, existing parking requirements significantly outpace demand of projected development in the downtown study areas and should be scaled down to reflect, density, mixed-use (shared parking) the multi-modal environment as evidenced by the parking demand model rates. Therefore the rates developed as part of this study should be used as a guideline for adjustments.

- Applicable to all case study locations.

Infill supportive policies: Eliminate or reduce parking requirements in the downtown with a *commercial overlay* to preserve and/or increase development density.

- Menlo Park
- Vallejo

Institute graduated in-lieu of parking fees to encourage redevelopment (smaller projects) in conjunction with a *shared parking/centralized parking* redevelopment requirement. Such a policy could be self-funded with parking assessment/parking benefit districts.

- Menlo Park
- Vallejo
- Union City
- Hercules

An *unbundling parking* requirement in concert with reduction of minimum parking requirements for future development, allowing developers to build what they believe the market will bear.

- Menlo Park
- Vallejo
- Hercules

Demand Management Strategies

Transportation Demand Management: Reduce overall parking demand with alternative mode and transit supportive amenities such as:

- Employer provided or subsidized transit passes
- Bike lockers and showers
- Carshare and carpool spaces
- Parking cash-out

Applicable Study areas:

- Menlo Park
- Vallejo
- Hercules

Market Pricing of Parking Supply: Most of the Case study areas exhibit peak parking occupancies at weekday midday and rush hour. Peak hour pricing and on and off street pricing differentials would distribute the parking demand more evenly from on-street to off street locations using available spaces more efficiently.

- Menlo Park
- Vallejo (to be phased in with infill development plan)
- Union City (to be phased in with BART pricing)

Enforcement hours and residential parking: The hours of parking enforcement should be extended beyond 6PM to capture peak hour downtown evening demand preserve existing residential parking.

- Applicable to all case study locations.

Residential Permit Parking Program: As parking demand grows in the downtown areas, there will be increased pressure on the surrounding residential neighborhoods. An RPPP will help preserve the parking for residents.

- Applicable to all case study locations.